

What is claimed is:

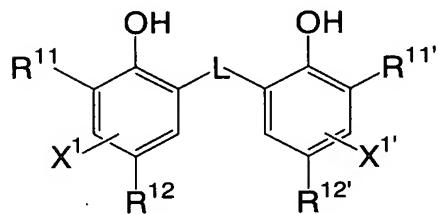
1. A photothermographic material, comprising:
  - a support;
  - an image forming layer disposed on the support and containing a photosensitive silver halide, a non-photosensitive organic silver salt, a reducing agent, and a binder; and
  - a silver-saving agent,
    - wherein silver iodide is contained in the photosensitive silver halide in an amount of 40 to 100 mol%.
2. The photothermographic material of claim 1, wherein the image forming layer has a multilayered structure comprising at least a first image forming layer and a second image forming layer, and at least the first image forming layer contains the silver-saving agent, and the second image forming layer does not contain the silver-saving agent.
3. The photothermographic material of claim 2, wherein the first image forming layer containing the silver-saving agent is disposed closer to the support, and the second image forming layer not containing the silver-saving agent is disposed more distant from the support.
4. The photothermographic material of claim 2, wherein the first image forming layer containing the silver-saving agent is disposed more distant from the support, and the second image forming layer not

containing the silver-saving agent is disposed closer to the support.

5. The photothermographic material of claim 1, wherein an image gradation obtained by heat development is 2 to 4.

6. The photothermographic material of claim 1, wherein the reducing agent contains a compound represented by the following formula (R):

Formula (R)



wherein  $R^{11}$  and  $R^{11'}$  each independently represent an alkyl group having 3 to 20 carbon atoms, in which a carbon atom bonding with a benzene ring is secondary or tertiary;  $R^{12}$  and  $R^{12'}$  each independently represent a hydrogen atom or a group capable of being substituted on the benzene ring;  $L$  represents  $-S-$  or  $-CHR^{13}$ , in which  $R^{13}$  represents a hydrogen atom or an alkyl group having 1 to 20 carbon atoms; and  $X^1$  and  $X^{1'}$  each independently represent a hydrogen atom or a group capable of being substituted on the benzene ring.

7. The photothermographic material of claim 1, further comprising

a development accelerator.

8. The photothermographic material of claim 1, wherein the photothermographic material is capable of being exposed by a laser light source.

9. The photothermographic material of claim 8, wherein the laser light source has a wavelength of 350 nm to 450 nm.

10. The photothermographic material of claim 8, wherein the laser light source is a blue semiconductor laser.

11. The photothermographic material of claim 1, wherein a total amount of coated silver including the photosensitive silver halide and the non-photosensitive organic silver salt is 0.1 to 3.0 g/m<sup>2</sup>.

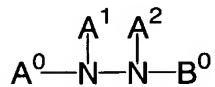
12. The photothermographic material of claim 1, wherein the reducing agent is contained in an amount of 0.1 to 3.0 g/m<sup>2</sup>.

13. The photothermographic material of claim 1, wherein the reducing agent is contained in the image forming layer in an amount of 5 to 50 mol% per mole of silver on a surface having the image forming layer.

14. The photothermographic material of claim 1, wherein the silver-saving agent is a hydrazine derivative compound represented by the

following formula (V):

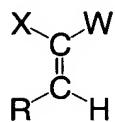
Formula (V)



wherein  $A^0$  represents an aliphatic group, an aromatic group, a heterocyclic group, or  $-G^0-D^0$ , each of which may have a substituent;  $B^0$  represents a blocking group; one of  $A^1$  and  $A^2$  represents a hydrogen atom and the other represents a hydrogen atom, an acyl group, a sulfonyl group, or an oxanyl group;  $G^0$  represents  $-CO-$ ,  $-COCO-$ ,  $-CS-$ ,  $-C(=NG^1D^1)-$ ,  $-SO-$ ,  $-SO_2-$ , or  $-P(O)(G^1D^1)-$ , in which  $G^1$  represents a single bond,  $-O-$ ,  $-S-$ , or  $-N(D^1)-$ , and  $D^1$  represents an aliphatic group, an aromatic group, a heterocyclic group, or a hydrogen atom; and  $D^0$  represents one selected from the group consisting of a hydrogen atom, an aliphatic group, an aromatic group, a heterocyclic group, an amino group, an alkoxy group, an aryloxy group, an alkylthio group, and an arylthio group.

15. The photothermographic material of claim 1, wherein the silver-saving agent is a vinyl compound represented by the following formula (VI):

Formula (VI)

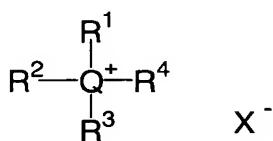


wherein X represents an electron attracting group; W represents one selected from the group consisting of a hydrogen atom, an alkyl group, an alkenyl group, an alkynyl group, an aryl group, a heterocyclic group, a halogen atom, an acyl group, a thioacetyl group, an oxanyl group, an oxyoxanyl group, a thiooxanyl group, an oxamoyl group, an oxycarbonyl group, a thiocarbonyl group, a carbamoyl group, a thiocarbamoyl group, a sulfonyl group, a sulfinyl group, an oxysulfinyl group, a thiosulfinyl group, a sulfamoyl group, an oxysulfinyl group, a thiosulfinyl group, a sulfinamoyl group, a phosphoryl group, a nitro group, an imino group, an N-carbonylimino group, an N-sulfinylimino group, a dicyanoethylene group, an ammonium group, a sulfonium group, a phosphonium group, a pyrylium group, and an immonium group; R represents one selected from the group consisting of a halogen atom, a hydroxyl group, an alkoxy group, an aryloxy group, a heterocyclic oxy group, an alkenyloxy group, an acyloxy group, an alkoxy carbonyloxy group, an aminocarbonyloxy group, a mercapto group, an alkylthio group, an arylthio group, a heterocyclic thio group, an alkenylthio group, an acylthio group, an alkoxy carbonylthio group, an aminocarbonylthio group, an organic or inorganic salt of a hydroxyl group or a mercapto group, an amino group, an alkylamino group, a cyclic amino group, an acylamino group, an oxycarbonylamino group, a heterocyclic group, a ureido group, and a sulfonamido group; and X and W,

and X and R may bond with each other to form a ring.

16. The photothermographic material of claim 1, wherein the silver-saving agent is a quaternary onium compound represented by the following formula (VII):

Formula (VII)



wherein Q represents a nitrogen atom or a phosphorus atom; R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> each independently represent one selected from the group consisting of a hydrogen atom, an alkyl group, an alkenyl group, an alkynyl group, an aryl group, a heterocyclic group, and an amino group; X<sup>-</sup> represents an anion; and R<sup>1</sup> to R<sup>4</sup> may bond with each other to form a ring.

17. The photothermographic material of claim 1, wherein the silver-saving agent is contained in the image forming layer or a layer adjacent to the image forming layer in an amount of 10<sup>-5</sup> to 1 mol per mole of the non-photosensitive organic silver salt.